

GWU – Elliott School of International Affairs – May 13, 2011

Greetings Earthlings... It is wonderful to be here speaking to you, having sat where you are over 20 years ago. I cannot begin to tell you who spoke to my graduating class, or frankly – what they said. I do remember a few things about the day, mostly how it meant so much to me that my parents and sister flew out from Michigan – even though I was nearly 28 years old.

Acknowledging your hard work and accomplishment is what we are all doing here today. And it is a privilege for me to join with your friends and families in honoring the occasion. I was asked to speak about my own career path and how the Elliott School prepared me for this career. Also, anything else I have learned that might be interesting to you. I'll admit to struggling a bit with this guidance, and will also admit that the only advice I got from my speech-writer was "keep it short"... I'll do my best to adhere to all advice.

It is hard for any of us to know at this point in time, how your experiences and what you learned at the Elliott School will impact the rest of your lives. But if my experience is any indication, you have undoubtedly already laid the foundation for multiple, as yet unseen careers, developed critical relationships with mentors and made a few life-long friendships.

While your varied paths on your way to the Elliott school have also greatly contributed to where you are today, what you learned and experienced here in these last few years will certainly shape your future in profound ways. It is very likely an inflection point... "That point at which the steering wheel is momentarily straight, when turning from left to right or vice versa" (Wiki's definition)

My Masters in Science, Technology and Public Policy provided me with not only one of the key credentials for my career, but also gave me the actual knowledge of how this Nation develops and manages key policy and budget decisions. My career in space policy and the position I hold today – would quite simply have not been possible without my Masters degree from the Elliott School.

My path on the way to the Elliott school was pretty typical and possibly quite similar to many of yours...

My interest in public service dates back to my childhood in Michigan and campaigns for my grandfather and uncle in the 1960's and '70's for State Legislature. Raised a moderate Republican with a stock broker father, it was no surprise that I chose an undergraduate major of political science and economics. It was also not a big surprise that I didn't go back to Michigan after graduating from Colorado College in 1983 – as the recession at that time (not unlike today) had hit Michigan very hard. Although I had never before stepped foot in Washington, D.C., I drove across the country and inside the beltway to “make a difference”. Afterall, that is what my parents and family had instilled in me as a “way of life”.

My next steps on the path were not giant leaps either... I volunteered for John Glenn's Presidential campaign (economy in Michigan still wasn't great) and again through the typical DC network, was hired at the National Space Society as the “receptionist/secretary/bookkeeper”.

For those of you who are being awarded your undergraduate degrees today – this quick synopsis of my early career is NOT shared to convince you to take just any job that is offered (although as a parent of high school and college students today, I can tell you that is definitely my view)... My example highlights how early career choices can lead to entire careers. Certainly it is true that had I not found the National Space Society's mission (to create a spacefaring civilization) of interest or importance, I would have and could have moved onto work in other fields. But, as it turned out – this early job led to future convictions, including my belief that space exploration and development are critical contributors to a better future. It was this opportunity that led me to apply to the Elliott School's Science, Technology and Public Policy program.

A common theme for any commencement or leadership speech is that “it is all about the people you meet”. My message is no different. For me, it has been the people and my relationships with those people that have had the greatest lasting impact of the GWU experience and a notable person on my path is Professor John Logsdon, who led the Science Technology Policy program at GW and then

founded and led the Space Policy Institute here for over 20 years. John was on the Board of the Space Society, he talked with me about the Master's program, became my professor, my advisor and life-long mentor. Not only would I not have had the career I have had without the Elliott School, I certainly would not have it without Dr. John Logsdon.

It was here – and through John, that I developed my views on the real value of NASA and our space program... how our space effort has led to discoveries in science that have revealed the unknown and re-written our textbooks, how our exploration efforts have inspired generations to challenge themselves to “reach for new heights”, how NASA's missions have led to technology breakthroughs that have created whole new fields and returned billions of dollars to the US economy **and** how from the vantage of space we look back at Earth with not only an entirely new perspective, as “earthlings”, but with new information that can help us protect our environment in the future.

In thinking about what to talk with you about today, I wanted to cite a SPECIFIC example of something I learned in grad school that has been important for my current position...

It was here that I first learned about the critical policy and financial trade-offs made in the Nixon Administration that led to where we are today with the space shuttle program. I have recently re-read the history that first captivated me right here at school 25 years ago (... do you have ANY idea how much harder it was to do research before the internet)? Professor Logsdon had us read the actual memos and dialog between George Low, NASA's Deputy Administrator and Cap Weinberger, OMB's Deputy Director at the time as they debated the best way for the Nation to proceed with human spaceflight post-Apollo.

This knowledge provides a context for me today, as this is now one of my challenges as we move into the post-Space Shuttle era. What I learned here, 25 years ago, informs me today as NASA charts our course for the next 30 years. The GW program gave me the very knowledge and underpinning to do my best job for this Nation and for the tax-payer every day.

Beyond specific examples of how my experiences here shaped my career, there are several lessons that I'd say we all take from your achievements that we are now honoring. I looked up common commencement speech messages (since all of that is so easy now)... : things like the importance of setting goals, working as a team, taking risks, be flexible...never give up...

My added "spin" on all this advice is to leverage your own effectiveness, by working for an organization that exemplifies those characteristics. You know where this is headed... one such organization is NASA. But others could be other government agencies, private industry service organizations, community organizations...

Forty one years ago today – on a different Friday the 13th, NASA experienced what easily could have been its darkest day... Two days into what was planned to be humanity's third landing on the Moon, an oxygen tank ruptured in the service module, putting the entire crew, mission and undoubtedly program at risk. While the mission's primary goal of accomplishing the 3rd lunar landing would be lost, the men and women of NASA spent the next four days working together to save the crew and program. You all likely only know of the story through the brilliant work of Ron Howard, Tom Hanks and others from the Movie, Apollo 13. The film (and Jim Lovell and Jeff Kluger's wonderful book, Lost Moon). I think one of the things that makes the movie so compelling is that real human drama – that this happened ... to these people... to NASA and to our Nation and world.

As we at NASA continue to deliver on that promise and spirit, we recently held an internal senior management retreat where we were asked to identify NASA's greatest singular accomplishment. Surprisingly, the collective response was not Apollo 11 and man's first footsteps on another celestial body – but those four days when we recovered Apollo 13. Those days represent what is the very best in all of us... determination, creativity, stamina and teamwork. It is worthwhile to remember the potential of what we can accomplish when we come together for such a common purpose. While those 4 days were extremely unique, NASA works every day to accomplish the near impossible – and often succeeds.

Since each of you have a background now (and are getting degrees) in public policy and international affairs, you likely can see the fun and challenge of marrying these goals (accomplishing the near- impossible) with managing this through the bureaucratic policy process that “is” Washington. Getting our 2011 budget through Congress this year actually turned out to be “accomplishing the near-impossible” (my own personal Apollo 13?... well, we did all “live”). I think I want Gina Davis to play me in the movie!

We at NASA are stewards not only of exploration and discovery, we also know we preserve that part in all of us that says we can accomplish things never thought possible. So if our charge is to imagine and do what others think is crazy, in many ways we’ve come to the right place. This Nation was founded on that very principle...we exist so those who come here know they will not be held back or mocked for their ideas, but encouraged and supported. Afterall, Einstein chose America. Von Braun, chose America.

Being here means you can dream. It means you have the opportunity to do the impossible. It means you have the opportunity to innovate and lead and inspire. And it is because of this very idea that we have NASA.

Every feat NASA has ever achieved, from putting a man on the moon and bringing him back home safely to building a reusable space vehicle, which was previously the stuff of comic books and movies, to sending a spacecraft well beyond our own planet to see what’s out there, was once deemed impossible. We did all these things, not because they were easy, as President Kennedy reminded us, but because they are hard. Because they serve to organize and measure the best of our energies and skills.

But to what end? Just to do impossible things? NASA is an agency founded for the express purpose of doing things that will benefit all people. As we are all students of public policy, where do we look for our statement of purpose? – but our formative documents – our law... The Space Act of 1958 that created NASA says it explicitly: The Congress declares that it is the policy of the United States that

activities in space should be devoted to peaceful purposes for the benefit of all humankind.

This is the reason NASA exists, – **“To reach for new heights and reveal the unknown so that we do and learn will benefit all humankind.**

The images MESSENGER has been returning from Mercury last month help us tell a part of this story. No one has ever orbited the closest planet to our sun before. This summer, we plan to send a spacecraft named Aquarius into orbit to examine the Earth’s ocean salinity and find out more about how that affects our climate. It will give us an understanding that won’t just benefit our nation – but all humankind. Valuable research in fields like energy and human health continue everyday on the International Space Station with an international crew of 6 astronauts and cosmonauts, a continuous human presence for over ten years. And later this year we will send a rover, named Curiosity...to the dusty red surface of Mars. All these things serve as proof of what we, as human beings, are capable of, and exploration is one of the most human characteristics of all.

The journey of exploration that started for me – seated right where you (in many ways, it seems like yesterday) – has led me to a position where I take what I learned here, work with some of the very people I met here, to make the most informed choices I can about how NASA and our Nation should best continue to deliver on that promise.

Most of you have been living in Washington, so you know that it is a difficult time to be trusted with tax-payer dollars and it has been a year of tough choices. Everyone’s had to make them. But these kinds of choices have never stopped us before. We are reminded that NASA is at its best when reality gets in the way. After all, we’ve been beating gravity for over 50 years! That’s what makes us NASA and that’s what makes us human. When challenges lie ahead, when resources are tight, when the technology has not yet been invented...we figure it out. Just look at the technology we have advanced for the James Webb Telescope? We want to look farther back than the Hubble Space Telescope? We want to look 10 times farther – to what we think is the very beginning of the Universe? We

want to view a blue ocean on a distant planet? We go about delivering on that promise.

Those of you graduating today have delivered on a very important promise to yourselves. You've set goals and achieved them, you've taken risks, been creative, worked hard as individuals and as teams. And **you** have never given up.

There will be challenges ahead – and that is good news. We can all strive to be like NASA on her best days and accomplish things because they are hard – and because they are important and because they have value. Choose to make a difference in your own way and you never know where your path – or contrail – will lead.

I spoke of “inflections” at the beginning of this talk. Your life's inflection points are times when you can really look back and reflect on how your life took shape. It has been a great experience for me to look back at the inflection point that was MY time at the Elliott School. To recognize the importance of what I learned here and who I got to know here. Now it is your turn to begin your own next chapters... with the knowledge and support of this amazing institution. I hope that you will find a few moments along the way to look back and really appreciate the experience you've had here. I thank you for giving that opportunity to me, by inviting me to speak to you today. Godspeed Graduates.